56K/64K DSU/CSU Adapter Module *Supplement*

Part No. 301271-A Rev. 01
August 1998

Bay Networks

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USA Requirements Only

Federal Communications Commission (FCC) Compliance Notice: Radio Frequency Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to take whatever measures may be necessary to correct the interference at their own expense.

European Requirements Only

EN 55 022 Statement

This is to certify that the Bay Networks BayStack AN, ANH, or ARN is shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC, Article 4a. Conformity is declared by the application of EN 55 022 Class A (CISPR 22).

Warning: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take appropriate measures.

EC Declaration of Conformity

This product conforms (or these products conform) to the provisions of Council Directive 89/336/EEC and 73/23/EEC. The Declaration of Conformity is available on the Bay Networks World Wide Web site at www.baynetworks.com.

Japan/Nippon Requirements Only

Voluntary Control Council for Interference (VCCI) Statement

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Voluntary Control Council for Interference (VCCI) Statement

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

Canada Requirements Only

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (BayStack AN, ANH, or ARN) does not exceed the Class A limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique (BayStack AN, ANH, or ARN) respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada.

Canada CS-03 Rules and Regulations

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user’s satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent the degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Notice: For equipment using loopstart lines, please note that the Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement

that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5. The REN is located on the "FCC Rules Part 68" label located on the bracket of the module, or on the back of the unit.

Canada CS-03 -- Règles et règlements

Avis: L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

Avis: Veuillez prendre note que pour tout appareillage supportant des lignes de type "loopstart," l'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5. Le REN figure sur l'étiquette "FCC Rules Part 68" située sur le support du module ou à l'arrière de l'unité.

FCC Part 68 Compliance Statement

This equipment complies with Part 68 of FCC Rules. All direct connections to telephone network lines must be made using standard plugs and jacks compliant with FCC Part 68. Please note the following:

1. You are required to request service from the telephone company before you connect the unit to a network. When you request 56K/64K Service, you must provide the telephone company with the following data:
   - The Facility Interface Code: 04DU5-56/64
   - The Service Order Code(s) (SOC): 6.0F
   - The required Universal Service Order Code (USOC) jack: RJ48S
2. Your telephone company may make changes to its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. The telephone company will notify you in advance of such changes to give you an opportunity to maintain uninterrupted telephone service.
3. If the unit causes harm to the telephone network, the telephone company may temporarily discontinue your service. If possible, they will notify you in advance, but if advance notice is not practical, you will be notified as soon as possible and will be informed of your right to file a complaint with the FCC.
4. If you experience trouble with the unit, please contact the Bay Networks Technical Solutions Center in your area for service or repairs. Repairs should be performed only by service personnel authorized by Bay Networks, Inc.

United States	1-800-2LAN-WAN
Valbonne, France	33-4-92-96-69-68
Sydney, Australia	61-2-9927-8800
Tokyo, Japan	81-3-5402-0180

5. You are required to notify the telephone company when you disconnect the unit from the network.

Using the 56/64K DSU/CSU Adapter Module

This document supplements the following guides:

- *Installing an Adapter Module in a BayStack AN or ANH Router*
- *Installing and Operating BayStack ARN Routers* (Chapter 4, “Installing a WAN Adapter Module”)

Follow the hardware installation steps in the guide for your router, referring to this document for information specific to the 56/64K DSU/CSU adapter module. Information in this supplement includes:

- “Verifying Router Requirements” on page 1
- “Attaching Cables” on page 2
- “Completing Software Configuration” on page 4
- “Interpreting LEDs” on page 5

Verifying Router Requirements

Table 1 shows the version and location of required programmable read-only memory (PROM) code for the 56/64K DSU/CSU adapter module.

Table 1. PROM Diagnostic and Boot Code Requirements

Router Type	Code Type	Minimum Version	Directory	File Name
ARN™	Boot	1.17	arn_proms	arnboot.exe
	Diagnostic	1.30	arn_proms	arndiag.exe
AN®/ANH™	Boot	9.00	an_proms	anboot.exe
	Diagnostic	7.26	an_proms	andiag.exe

For information on upgrading PROM, see the BayRS™ *Upgrading Routers* guide.

Attaching Cables

Connect the Telco service cable to the RJ-48C connector on the installed 56/64K DSU/CSU adapter module.

You install the adapter module in an open adapter module slot on the router, as follows:

- ARN -- one of the two front-panel WAN adapter module slots (Figure 1). See *Installing and Operating BayStack ARN Routers*.
- AN or 12-port ANH -- the back-panel adapter module slot (Figure 2). See *Installing an Adapter Module in a BayStack AN or ANH Router.*
- 8-port ANH -- the back-panel COM3 slot (Figure 3). See *Installing an Adapter Module in a BayStack AN or ANH Router.*

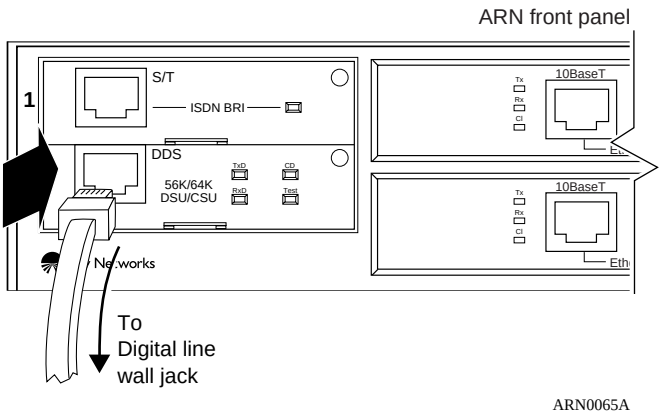

Figure 1. ARN 56/64K DSU/CSU Adapter Module (Slot 2)

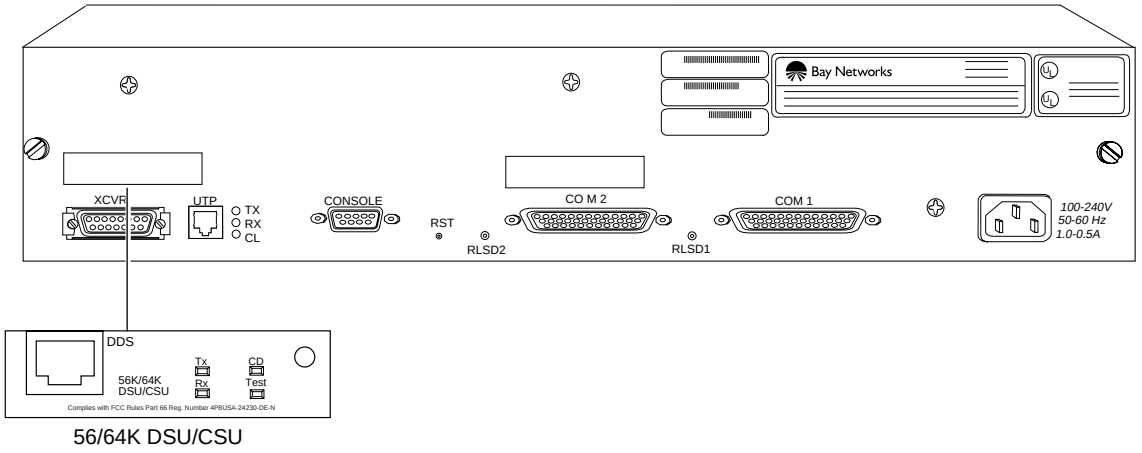

Figure 2. 56/64K DSU/CSU Adapter Module Connector on an AN or 12-Port ANH

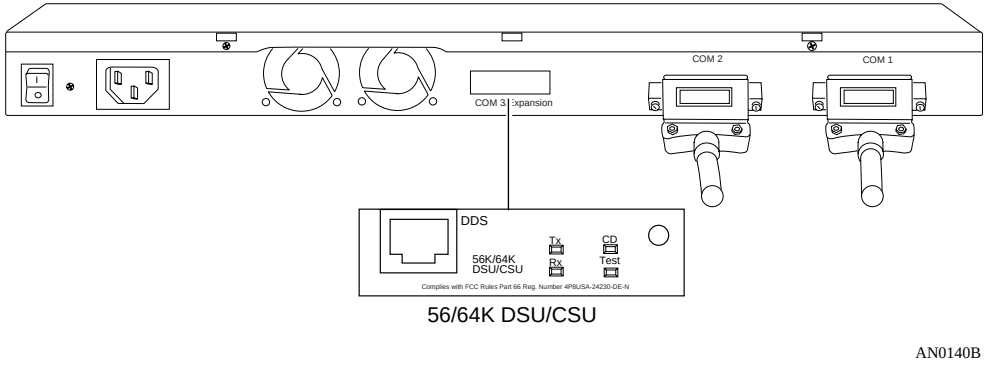

Figure 3. 56/64K DSU/CSU Adapter Module Connector on an 8-Port ANH

Completing Software Configuration

Once you have successfully installed the adapter module, complete the following software configuration tasks using instructions found in your BayRS documentation:

Configuration Task	Location of Instructions
Connect the ARN to the network. Note that you cannot perform a Netboot or Directed Netboot operation using the 56/64K DSU/CSU adapter module interface. The boot/startup methods you can use from the 56/64K DSU/CSU interface are Local Boot and EZ-Install.	One of the following: • *Installing and Operating BayStack AN and ANH Routers* • *Installing and Operating BayStack ARN Routers* • *Configuring BayStack Remote Access*
Modify the ARN configuration file to add the 56/64K DSU/CSU module and enable default software services.	Any of the following: • *Configuring and Managing Routers with Site Manager* • *Using the Bay Command Console* • *Configuring Your Router Using the Quick2Config Tool*
Configure 56/64K DSU/CSU line services. You can use the DSU/CSU interface for direct connection to Telco leased line circuits. The integrated DSU/CSU supports either 64-Kb/s Clear Channel or 56Kb/s DDS services.	*Configuring WAN Line Services*

For the latest information, be sure to review the *Release Notes* and *Documentation Changes* for your version of BayRS software.

Interpreting LEDs

The 56/64K DSU/CSU LEDs are identical in label, color, and function on each platform. They will blink on and off during diagnostic testing, but they will not stay on to indicate data transfer until you have configured and enabled software services.

Table 2 describes the function of each 56/64K DSU/CSU LED.

Table 2. 56/64K DSU/CSU Adapter Module LEDs

LED	Meaning
TxD (Transmit Data)	Lights when the interface transmits data over the network.
RxD (Receive Data)	Lights when the interface receives data from the network.
CD (Carrier Detect)	Lights when the interface detects a connection to another device.
Test	Lights when the interface is in test or loopback mode.